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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,889	08/28/2003	James T. Veligdan	01-40101-US	8726

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EXAMINER

SEVER, ANDREW T

ART UNIT PAPER NUMBER

2851

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/650,889

**Applicant(s)**

VELIGDAN ET AL.

**Examiner**

Andrew T Sever

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-12, 29 and 40-45 is/are rejected.
- 7) ☒ Claim(s) 8, 13-28 and 30-39 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8/2003</u>  | 6) <input type="checkbox"/> Other: ____                                     |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 6, 7, 9-12, 29, and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Veligdan (US 5,455,882 which will be indicated as '882.)

The '882 patent teaches in figure 8 a display system comprising:

An optical panel including a plurality of optical wave-guides stacked together, with first ends thereof defining an inlet face, and opposite ends thereof defining an outlet face (see figure 7 for example which shows the construction of the screen);

A projector that projects an image beam outbound across said inlet face for display on said outlet face (projector 20a);

An imaging device that images said image beam is optically aligned between said projector and said inlet face (see figure 7, part 32 is a modulator, which modulates intensity);

At least one optical detector that detects a location on said outlet face of an inbound light spot (50 and 42); and

At least one channeling element that channels at least a portion of said light spot from said panel to said at least one detector (as described in column 12 lines 50-65 the

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light is channeled to the detectors, inherently this requires some sort of channeling element.)

*With regards to applicant's claims 2 and 3:*

The '882 teaches in column 11 lines 5-25 placing an "X" or some other visible mark at a indicated location corresponding to a detected spot location.

*With regards to applicant's claim 4:*

Clearly figure 8 depicts a menu being displayed.

*With regards to applicant's claim 6:*

Figure 8 teaches a remote control (38) for emitting a light beam to form said inbound light spot.

*With regards to applicant's claim 7:*

The '882 patent teaches in column 11 lines 5-25 that the controller emits infrared light.

*With regards to applicant's claim 9:*

As clearly depicted in figure 8 the detectors receive the light through the same channeling elements (though on the sides) as the light is in reverse projected.

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*With regards to applicant's claim 10:*

The structure of the panel is shown in figure 9 which shows that the wave guides extend horizontally across the width of the panel, and the wave guides are stacked together vertically-along the height of the panel.

*With regards to applicant's claim 11:*

The detector is coupled to the wave-guides by channeling elements.

*With regards to applicant's claim 12:*

See column 12 lines 50-65

*With regards to applicant's claim 29:*

The '882 patent teaches in column 10 lines 16-28 that the detector(s) is/are comprised of an array of photodiodes or a CCD.

*With regards to applicant's claim 40:*

The '882 patent teaches in column 10 line 6 that the wave-guides are in ribbon form.

*Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Veligdan '882 as applied to claims 1-4, 6, 7, 9-12, 29, and 40 above, and further in view of Kitazawa (US 2003/0043350.)

As described in more detail above the '882 patent teaches a display system comprising an optical panel including a plurality of optical wave guides stacked together, a projector, an imaging device, at least one optical detector, and at least one channeling element that channels a light spot generated outside of the display system by a user (by a device such as a remote control) to the detector. The '882 patent does not however teach generating an indicator where the light spot is generated on the display which takes the form of a visible cursor.

However, generating a visible cursor at the spot pointed at is well known in interactive projection systems such as those taught by the '882 patent. One such example is taught by Kitazawa, which teaches in paragraph 38 that a pointer is displayed at the location of the indication light spot. Given that generating a visible pointer allows the user to know where they are pointing to insure that they select the correct position (icon).

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Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to display a visible pointer at the indication light spot.

5. Claims 41-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Veligdan '882 as applied to claims 1-4, 6, 7, 9-12, 29, and 40 above, and further in view of Veligdan et al. (US 6,175,679 which will be indicated as '679)

As described in more detail above the '882 patent teaches a display system comprising an optical panel including a plurality of optical wave guides stacked together, a projector, an imaging device, at least one optical detector, and at least one channeling element that channels a light spot generated outside of the display system by a user (by a device such as a remote control) to the detector. The '882 patent does not however teach the inbound light spot being formed by covering a spot on the outlet face of the display where the covering element comprising for one of the group consisting of finger, palm, pencil eraser, stylus, and paper.

The '679 patent teaches an optical keyboard which comprises a display similar to that taught by the '882 patent including the use of wave guides and a detector (see figures 1 and 2.) The '679 patent teaches in column 4 lines 13-44 the method by which the display system (keyboard) detects input, which includes covering a spot with a finger or palm, which comprises of reflecting a portion of the image beam to provide the inbound light spot, as is claimed by applicant's claims 42 and 43, when a user touches the panel as claimed by applicant's claim 44. Alternatively the '679 patent teaches placing a transparent plastic cover between the user (the covering element that produces the spot

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not the transparent plastic cover which does not produce the spot) and the outlet face as is claimed by applicant's claim 45. Given that being able to use more varied and convenient means for inputting data (a finger is much more convenient than a remote control) and given the teachings of the '679 patent of a detector to use with a wave guide type interactive display system, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the system of the '882 system be such that the spot can be generated by a covering element selected from the group consisting of finger, palm, pencil eraser, stylus, and paper as taught by the '679 patent.

*Allowable Subject Matter*

6. Claims 8, 13-28, and 30-39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: With the exception of claim 8, the indicated potentially allowable subject matter claims a channeling element with a specific configuration. Although at least a portion of the wave-guides or some other not described part of the both the '882 and '679 patents must serve as a channeling element no component has the details claimed in applicant's claims. With regards to applicant's claim 8, this specific configuration of the wave guides where the outlet face is parallel to the inlet face would require a channeling element to channel



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the light down to the detectors of the form claimed in the rest of the indicated potentially allowable claims (if they were re-written in independent form), accordingly it would not be obvious to modify the '882 patent or the '679 patent to use parallel wave guides as opposed to their currently non-planner ones since it would require the addition of some mechanism to conduct the inbound light spot to the detectors which are clearly taught to be below the display. Accordingly claim 8 would be allowable if re-written in independent form including the limitations of the base claims, as would claims 13-28, and 30-39.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Chu et al. (US 2004/0075820) teaches an interactive display system.

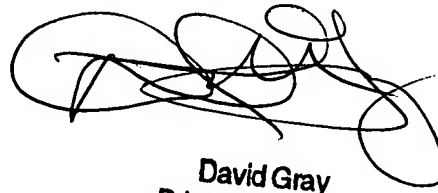
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 271-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS



David Gray  
Primary Examiner